

Proceeding: WT Docket No. 04-356
WT Docket No. 02-353

To: Office of the Secretary
Federal Communications Commission
Washington, DC 20554

Comment filed by: Diane Barbera
Karl Polzer
Protect Schools www.protectschoools.org

Address correspondence to:
Karl Polzer
2619 Sigmona Street, Falls Church, VA, 22046
kpolder@cox.net
703-204-3473

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We oppose the FCC's proposed rules in each of the above proceedings because they do not protect school children from prolonged exposure to radio frequency radiation at high frequencies.

In 2000, an official British government team of independent experts ("The Stewart Group") reported:

There is evidence that at the frequencies used in mobile phone technology, children will absorb more energy per kilogram of body weight from an external electromagnetic field than adults (see paragraph 4.37). A one year old could absorb around double, and a five year old around 60% more than an adult. Additionally, since children are being exposed to RF radiation from base stations (and from mobile phones) from a younger age than adults, they will have a longer time in which to accumulate exposure over the course of their lives, and a longer time for any delayed effects of exposure to develop.

(Report, par. 6.63)

The Stewart Group recommended that wireless cell towers and base stations not be placed at or near schools without the informed consent of the school and the parents:

We recommend, in relation to macrocell base stations sited within school grounds, that the beam of greatest RF intensity should not fall on any part of the school grounds or buildings without agreement from the school and parents.

Similar considerations should apply to macrocell base stations near to school grounds.

This recommendation was adopted by the British Government as official policy of the UK Department of Health, and it is still in effect today.

[Summary of the Stewart Group report and official government response can be found at www.doh.gov.uk/mobilephones/index.htm]

Parents are concerned about potential health risks to children and, therefore, are concerned about allowing the siting of cell base stations and power lines at their schools. Electromagnetic radiation from power lines has been classified by government and public health authorities as a possible human carcinogen. There is still much controversy regarding the effects of Radio Frequency Radiation (RFR), even at very low levels, on biological systems and scientific research has been unable to provide proven safe exposure limits. It is important to exercise a practice of prudent avoidance, and limiting exposures to known or suspected harmful agents such as RFR is a prudent policy, especially where there may be additional health risks for children due to their smaller sizes, biological make-up, and less developed bodies that are still undergoing significant physiological changes. Health problems associated with exposures to RFR include: depression, irritability, headache, ringing in the ears, cardiovascular problems, sleep disruption, leukemia, brain cancer, decreased reproductive function, motor function problems, memory and attention of school children affected.

Henry Lai, Ph.D., Professor of Bioengineering at the University of Washington and leading expert in the bio-effects of electromagnetic radiation, has studied this field for 2 decades. He is quoted: "Exposure of RFR from mobile telephones is of a short-term, repeated nature at relatively high intensity, whereas exposure to RFR emitted from cell masts is of long duration but at a very low intensity. The biological and health consequences of these exposure conditions need further understanding." He is also quoted: "I have come to the conclusion that exposure to radio frequency radiation (RFR) from use of mobile phones and possibly from chronic exposure to phone masts and transmission towers, has not been proven to be safe. To deny any possible health effects from RFR emitted from wireless communication devices is scientifically not defensible given the growing evidence of RFR bio-effects." In a letter written to parents of children attending Fairfax County, VA schools, Dr. Lai concluded: "It is common sense to keep children out of harm's way. Therefore, if there is a possibility of harm, even not proven conclusively, a precautionary approach should be taken, and antennas should be placed as far away from schools as possible."

According to a July 2002 letter written on behalf of the administrator of the EPA, U.S. exposure guidelines for RFR are not up to date with the latest research, which includes findings of biological impacts that could potentially cause cancer and other diseases, and, therefore, cannot be characterized as fully protective of people. Furthermore, there is so much uncertainty about what levels of exposure might be harmful that international standards vary by a factor of at least 5,000 and even the most protective standards cannot be characterized as safe, given current research.

A report from the Royal Society of Canada, "A Review of the Potential Health Risks of Radiofrequency Fields from Wireless Telecommunication Devices," March 1999, concludes that there is more research to be done regarding bio-effects of RFR. For example, on page 9, Health Effects, Toxicological Studies this report states: "Because DNA damage can result in serious health consequences, the possibility that low energy non-thermal RF field exposures can cause DNA damage remains a concern. Further research is needed to clarify this possibility." In the conclusion of this document by an expert panel, on page 109, we find "The panel also believes that many of the studies in humans and animals addressing the potential for adverse health effects do not have sufficient power to rule out completely any possibility of such effects existing. The panel supports additional research in this area." (This report was cited in a resolution by the British Columbia Confederation of Parent Advisory Councils, Canada's equivalent to PTAs, to prohibit placement of cellular antennas at schools.)

Magda Havas, Ph.D., of Trent University in Ontario, a noted researcher in the bio-effects of RF radiation, recently wrote a letter to parents of children attending schools in Fairfax County, VA, stating: "I am writing regarding Fairfax County School Board's decision to erect cellular monopoles on school property. In my opinion this is an unwise decision that may affect the health of students, teachers, and those living in the neighborhood. I base this conclusion on research that has been conducted near wireless telecommunication antennas in a number of countries."

Studies have found negative health impacts near cellular transmission facilities. Available on the web site www.protectschools.org, these studies and research summaries include:

- A study by Santini, R. et al, "Study of the health of people living in the vicinity of mobile phone base stations..." (Pathol Biol 2002, 50: 269-73) Based on their findings the authors recommend placing cellular antennas at least 300 meters away from populations.
- A study by Oberfeld, G. et al: "The Microwave Syndrome -- Further Aspects of a Spanish Study," 2004. The researchers found that the higher the level of radiation in people's bedrooms, the more likely they were to report fatigue, irritability, headaches, nausea, loss of appetite, sleeping disorders, depressive tendency, feelings of discomfort, difficulty in concentration, loss of memory, visual disorders, dizziness, and cardiovascular problems. The study's authors recommend the use of exposure standards on par with Salzburg's, 5,000 times more protective than the U.S. standard.
- Dr. Henry Lai's bibliography of almost 40 studies finding biological effects of RF radiation at power intensities similar to what would be experienced near cell towers.
- A presentation made by Theodore Litovitz, Ph.D., director of the bio-electromagnetic lab at Catholic University in Washington, D.C., before the Fairfax County Council of PTAs documenting research findings of biological effects at power levels many thousands of times below government exposure standards. According to Dr. Litovitz, if one subtracts scientists paid by the cellular industry, most researchers studying the bio-effects of RFR believe current government safety standards are not protective enough of the public.

In August 2004 at its biennial convention, the International Association of Firefighters (IAFF) enacted a moratorium on placing cell towers at fire stations until a study of health

impacts can be done. This action came on the heels of a pilot study that found neurological changes in six firefighters living and working near cell towers for several years.

Many school boards and PTAs are taking action on this issue. For example, the Los Angeles Board of Education, British Columbia Confederation of Parent Advisory Councils, and Connecticut PTAs have passed resolutions urging restrictions or outright bans on placement of cellular antennas on school property or near schools.

When considering health hazards affecting children and measures to prevent harm, it is important to adhere to the “Precautionary Principle.” This principle requires policymakers to act to protect children where there is reasonable evidence of potential health risk, even in the absence of 100% conclusive evidence of harm.

In the proposed rule and any future rules, as a general rule, the FCC should prohibit the construction or operation of fixed wireless transmission facilities within one mile of any school, playground or athletic field, unless and until absolute safety to school children and staff can be guaranteed. In densely populated urban areas, the FCC should prohibit the construction or operation of fixed wireless transmission facilities within 1,500 feet of any school, playground or athletic field, unless and until absolute safety to school children and staff can be guaranteed. Furthermore, the FCC should prohibit the placement of fixed wireless transmission facilities on school properties or the properties of organizations housing school or daycare activities, and any playground or athletic field.

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